UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/833,838	04/10/1997	BRUCE D. GAYNOR	96700/451	3053

7590 06/28/2002

AMSTER ROTHSTEIN & EBENSTEIN
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER
EWOLDT, GERALD R

ART UNIT	PAPER NUMBER
1644	24

DATE MAILED: 06/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 08/833,838	Applicant(s) Gaynor et al.
	Examiner G.R. Ewoldt	Art Unit 1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12/06/01 and 3/20/02* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *54-74* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *54-74* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/06/01 has been entered.

2. All pending claims, 54-74, are being acted upon.

3. In view of Applicant's Remarks arguing the non-enabling nature of the prior art, filed 12/06/01, all previous rejections have been withdrawn. Accordingly, Applicant's Remarks have been rendered moot.

4. New corrected drawings must be filed with the changes incorporated therein. See the attached PTO Form-948. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

Corrections other than Informalities Noted by Draftsperson on form PTO-948. All changes to the drawings, other than informalities noted by the Draftsperson, MUST be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings MUST be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections. Note that the filing of corrected drawings may no longer be held in abeyance until such time as claims are found allowable. Applicant is required to submit

acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 54-74 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for:

a method for treating glomerulonephritis induced by the administration of the R4A antibody, said treatment comprising the administration of a d-DWEYS peptide at the time of the induction of the glomerulonephritis,

does not reasonably provide enablement for,

A) a method for treating glomerulonephritis mediated by anti-double stranded(ds)-DNA antibodies induced by the administration of the R4A antibody, said treatment comprising the administration of XGWXRV (SEQ ID NO:3), XWXYHX (SEQ ID NO:4), (D/E)G(D/E)WPR (SEQ ID NO:5), or (D/E)W(D/E)Y(G/S)(SEQ ID NO:2), at the time of the induction of the glomerulonephritis.

B) a method for treating glomerulonephritis mediated by anti-double stranded(ds)-DNA antibodies.

The specification disclosure is insufficient to enable one skilled in the art to practice the invention as claimed without an undue amount of experimentation. Undue experimentation must be considered in light of factors including: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill in the art, the level of predictability of the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention.

The specification discloses that two artificially created antibodies known to bind ds-DNA (R4A and 52b3) are capable of binding certain artificially created peptide motifs (SEQ ID NOS:2-5) *in vitro*. Thus, it is theorized, that the peptides might compete for the binding of similar ds-DNA binding antibodies found in the kidneys of systemic lupus erythematosus (SLE) patients *in vivo*. The specification then discloses a single *in vivo* experiment employing either d-DWEYS or l-DWEYS

administered at the same time as the R4A glomerulonephritis-inducing antibody to an experimental animal. The specification then discloses that d-DWEYS prevented deposition of the antibody in the kidneys of the experimental animals while l-DWEYS did not. Additionally, it is noted (page 20) that l-DWEYS bound the R4A antibody better *in vitro* that did d-DWEYS, yet l-DWEYS was completely ineffective *in vivo*. Further, the specification discloses that only d amino acids are likely to function in the claimed methods as l amino acids are subject to much quicker proteolysis than are d amino acids. Finally, in Remarks filed 9/07/01, Applicant argues that in closely related work published by several of the instant inventors employing the R4A antibody in which at least one of the claimed sequence motifs is identified, the methods of the instant claims are not enabled. It would appear then, from Applicant's own disclosure and Remarks, that the invention of the instant claims must be considered highly unpredictable. The specification discloses that even the best *in vitro* model, i.e., *in vitro* binding of the pathogenic antibody, cannot predict *in vivo* efficacy. As such, the method of the instant claims would require undue experimentation to practice as claimed as there would be no particular expectation of achieving success with any particular peptide recited in the instant claims. Regarding the existence of working examples, as noted above, the specification discloses a single working example in which one of the claimed embodiments is *demonstrated* to be nonfunctional. As such, the claimed methods must again be considered highly unpredictable and requiring of undue experimentation. Regarding the breadth of the claims and the amount of direction provided by the inventor, it is noted that instant claims encompass a method employing hundreds of peptides and an unlimited number of peptides/proteins comprising said peptides. As the only direction appears to be trial and error, one of ordinary skill in the art would again conclude that the invention of the instant claims would require undue experimentation to practice as claimed.

Regarding a method for treating glomerulonephritis mediated by anti-double stranded(ds)-DNA antibodies, it is noted that the specification is silent as to the treatment of established disease, i.e., antibodies already in the kidney (as would be found in a subject suffering from anti-ds-DNA antibody-induced glomerulonephritis). The specification discloses only a highly artificial model in which the treatment is administered at the time of disease induction. Further, the specification merely discloses that the single peptide that bound the pathogenic antibody *in vivo* "inhibited deposition." There is no disclosure of any sort of a treatment of glomerulonephritis. Thus, for the

reasons discussed in the previous paragraph, and the additional complexities of treating established glomerulonephritis, the method of the instant claims must be considered to require undue experimentation.

In re Wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. In view of the quantity of experimentation necessary, the lack of sufficient functional working examples, the lack of guidance (other than trial and error), the unpredictability of the art as demonstrated by Applicant's own examples, and the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

7. No claim is allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (703) 308-9805. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

G.R. Ewoldt, Ph.D.
Patent Examiner
Technology Center 1600
June 12, 2002